

Claims

1. A flow-controlled wind motor rotor (1) comprising one or more blades (3), said blades rotating around a central vertical axis (4) in a main bearing (5), said blades being parallel to the vertical axis (4), said blades being connected via crossbars (6), said blades being disposed freely rotatably in bearings (7), and said blades being orientable to the direction of the wind (10),

characterized in that

said blades (3) comprise a symmetrical aerodynamic profile (8) over their entire cross-section,

said rotor comprises a wind vane (9) to capture the direction of the wind,

said rotor comprises a primary control mechanism (11), which is controlled by said wind vane (9) and aligns said profiles (8) of said blade(s) (3) along the wind direction (10) at each point of their trajectory (13) around the central vertical axis (4), said blades being disposed on said crossbars (6),

said rotor comprises a secondary control mechanism (12), which aligns the longitudinal axes of said profiles (8) of said blade(s) (3) to the wind (10) at each point of their trajectory (13) around the central vertical axis (4) so as to produce an optimum aerodynamic force depending on the rotation angle of the crossbars (6) with respect to the wind vane (9) and the rotation velocity of the crossbars (6), and

said secondary control mechanism (12) is subordinate to the first control mechanism (11).
2. The wind rotor of claim 1, characterized in that the control mechanisms (11, 12) are mechanically, electromechanically, hydraulically or pneumatically controllable.

3. The wind rotor of claim 1, characterized in that the primary control mechanism (11) comprises a V-belt drive, and the secondary control mechanism (12) comprises a stepping engine (15) with a worm gear.
4. The wind rotor of claim 1 or 2, characterized in that said wind vane (9) is disposed concentrically and rotatably in the main bearing (5) on the central vertical axis (4).
5. The wind rotor of claim 1 or 2, characterized in that it comprises an electronic wind gauge as an alternative to said wind vane (9).
6. The wind rotor of claim 1, characterized in that said blades (3) are positioned in said bearings (7) on said crossbars (6) with an upward and/or a downward bias.
7. The wind rotor of claim 1, characterized in that said blades (3) are held by said crossbars (6), which crossbars are placed around said central vertical axis (4) at several levels disposed over one another.